

Don Thurston.

Jarbridge River (West Fork) - Jarbridge Mountains - Elko County  
15 June, and 14 August 1954

Introduction -

The headwaters of this stream or river are formed on the Jarbridge Mountains within the Humboldt National Forest, Humboldt Division. Roughly 40 square miles are drained by this stream and its tributaries. The names of the more important tributaries are Buck, Deer, Bear, Pine, Fox, and Jack Creeks. Several gulchs are named and these however are fairly small during the late summer months. The total length of the river itself is nearly 16 miles and almost all of this can be considered fishable. The first 10 miles of stream are within the confines of the National Forest and the lower six miles flow through a deep narrow V-shaped canyon and thus on into Idaho. This fork of the river picks up the East Fork of the Jarbridge and ~~inturn~~, flows into the Bruneau River and thence into the Snake River. The mining town of Jarbridge is located nearly 9 miles south of the Idaho State Line. The entire stream is in a very deep canyon and this includes the town of Jarbridge which is only one street wide and nearly a mile long.

*Pollution*  
Several years ago, the mining activity was at an all time high and the mine mills were functioning, thereby polluting the lower portion of the Jarbridge River with mine tailings. Most of the gold mining has ceased, thus very little smelting or milling is done now.

The upper portions, especially the north facing slopes are very heavily wooded with alpine fir and limber pine. Several other species of heavy cover types are present. The lower hills

# Jarbridge River (con't.)

and desert areas are covered with sagebrush. A series of several high mountain peaks divide the two forks of the Jarbridge with the highest called the Matterhorn and it stands out at 10,859 feet in elevation.

A good gravel road parallels the river from the Idaho Line to within a mile and a half of the very head of the stream. This road is maintained by the Elko County Road crews.

This whole area is very precipitous and high and is marked by several deep canyons (V-shaped). Erosion is common to some parts of the stream, due to high spring runoffs, where deep banks are encountered in several places. But due to the rocky nature of the mountains and stream bottom, erosion is not a problem at the present time.

The average gradient for the portion from the headwaters at the Norman Mines to the Idaho State line is 237 feet per mile, with the highest gradient in the upper third.

The amount of fishing pressure is not known, but during the two days spent on stream survey, no fishermen were encountered. However, this is only a slight indication as a moderate amount of pressure should exist according to reports from Conservation Officers. During holidays and weekends of the summer months, possibly a heavy amount of fishing pressure could exist.

## Water Type -

No water measurements were taken at the time of the first survey date, due to the high spring runoff, but on the second visit in August, the water was measured at two stations and the results are listed as follows:

## Jarbridge River (con't.)

	Station B	Station E
Average width	30 inches	66 inches
Average depth	2.5 in.	4 inches
Length of sample	100 feet	100 feet
Average velocity	2.5 ft/sec.	1.8 ft/sec.
Total flow (cfs)	1.3 cfs	2.42 cfs

The fact that this was an exceptionally dry year is one reason for the small amounts of water flowing.

The temperatures are recorded as follows:

Date	Stations					
15 June 1954	A	B	C	D	E	F
Water temp. °F.	53	40	41	40	43	44
Air temp. °F.	52	57	61	62	61	59
Time of day	10am	11am	1pm	3pm	4pm	5pm
14 August 1954						
Water temp. °F.	48	46	54	53	56	55
Air temp. °F.	52	55	58	67	76	72
Time of day	8am	9am	10am	12pm	2pm	5pm

No turbidity was noted on the latter survey date (August), but during the June time, silt was common throughout the stream with lesser amounts noted in the upper portions. No color was noted at any time.

Due to larger amounts of water flowing as compared to the smaller type stream, pools and holes are much better, but still a large amount of riffles are present. The 50-50 ratio between pools and riffles does not exist, but a preponderance of riffles were noted throughout the stream from the town of Jarbridge up stream. Below the town, the gradient is less and thus more holes and more water to give a closer 50-50 ratio.

Chemical analysis was taken only at two stations and listed as follows:

## Jarbridge River (con't.)

	Station B June 15, 1954	Station M August 14, 1954
Dissolved oxygen	9.6 ppm	8.8 ppm
Carbonates	none	none
Bicarbonates	10.0 ppm	16.5 ppm
Carbon dioxide	1.2 ppm	1.6 ppm
Hydrogen ion	less than 6.8	less than 6.8

The pH or Hydrogen ion was definitely on the acid side, but the lowest reading on the meter was only 6.8 and another disc was not available at the time. Durrant (1934)\* stated the pH to be 5.0.

## Animal Types and Abundance -

Most of the insects were found under the rocks and they consisted of stone fly nymphs, Planaria, May fly nymphs, and caddis fly larvae. The latter were the most abundant. Several adult Diptera were noted, with flies, bees, and wasps present. The food supply for trout was not considered abundant.

Several species of fish were found with the electric shocker with the Rainbow Trout the most abundant, Brook Trout second, and Cutthroat or hybrid trout, Dolly Vardens, and Whitefish being less common. The following are the results of the shocking at the various stations:

	Station A Rainbow	Station B Rainbow Dolly Varden Cutthroat		
0 - 2 inch	2	3	0	0
2 - 4 inch	1	4	0	1
4 - 6 inch	0	1	1	1
6 - 8 inch	0	2	1	0
8 -10 inch	0	0	0	0
	<u>3</u>	<u>10</u>	<u>2</u>	<u>2</u>

\* Durrant, S. D. (1934), A Survey of the Waters of the Humboldt National Forest, (Mimeo)

## Jarbridge River (con't.)

	Station C		Station D		Station E	
	Cutthroat Rainbow		Brook Whitefish		Whitefish Brook	
0 - 2 inch	2	1	0	0	0	0
2 - 4 inch	1	2	0	0	0	3
4 - 6 inch	0	1	1	0	0	3
6 - 8 inch	0	1	6	2	1	2
8 -10 inch	0	0	4	4	3	0
10 in.plus	0	0	0	0	2	0
	<u>3</u>	<u>5</u>	<u>11</u>	<u>6</u>	<u>6</u>	<u>8</u>

Very poor shocking results were noted due to high water the June date and to low carbonate content on the latter date. Several fish were observed escaping the electricity.

Other animals noted were Blue Grouse, Deer, Coyotes, and several passerine birds. Both old and new beaver dams were noted, but they were not abundant.

#### Vegetation Types and Abundance -

A very heavy type of vegetation exists throughout most of the stream, with the lower portion having huge juniper (*Juniperus scopulorum*), chokecherry, sagebrush, willows, currants, narrow leaved cottonwoods, mountain ash, while in the upper portions, fir and limber pine are dominant, with quaking aspen, rose, currant, juniper, ash, alder, and cottonwoods. The smaller type plants noted were false solomons seal, snowberry, yellow columbine, dogwood, geranium, skunk cabbage, and willows.

The south facing slopes in the upper canyon area contained mostly mountain mahogany, sagebrush, currants, and some quakes, and fir. The north slopes were heavily forested with fir and pine with some sagebrush, aspen and several smaller varieties such as rose and currant.

A green filamentous algae was noted in the slower moving parts of the stream and in some of the beaver dams.

## Jarbridge River (con't.)

### Bottom Types -

A large boulder and rock stream would define most of the bottom areas of the stream. However some sandy areas were noted along with a few gravelly portions. This heavy rubble is the main cause for some of the large holes or pools found in the Jarbridge River. By this same token, several small water falls were noted, with the pools and falls generally following each other. The lower portion, below the town of Jarbridge has very big rocks or boulders thereby causing some large deep pools.

### Cover -

An extremely heavy cover is found on most of the stream areas, in the form of this heavy vegetation. Undercut banks are not found in large quantities, but pools under rocks and boulders are common. The large type vegetation have roots exposed in the stream, thus affording shelter areas for fish. These roots collect debris during the high water especially and contribute more shelter and cover for the fish life.

### Spawning Conditions -

From the shocking records, small natural reproduced trout are very common, thus indicating propagation among the fish. Gravel areas are not abundant in most areas of the stream, but were strategically placed throughout.

### Diversions and Water Uses -

Large scale diversions for irrigating farm lands are not to be found within the portion surveyed. Several small scale diversions are found in and near the town of Jarbridge and none of these were screened. Livestock and sheep are grazed within

### Jarbridge River (con't.)

the U. S. Forest Service area. Some of the land north of the U. S. Forest Service boundary is private, therefore more grazing exists. The steep V-shaped canyon limits the amount of land available for pasture or meadow to be irrigated.

### Pollution -

During S. D. Durrant's study of the Jarbridge, he stated that mine tailings polluted the river from a point two miles above the town of Jarbridge to the area below the U. S. Forest Service boundary and on into the area extending to the Idaho-Nevada boundary. At the present time, little mine milling is being done, thus the problem of pollution should be small.

### Predators -

Only one water snake was observed during the survey, that would add to the predator list for trout. Osprey were noted at Emerald Lake, which isn't far from the headwaters of the Jarbridge.

### Recommendations -

The electric shocker was not as effective as it should have been. Several times fish were seen moving through the electrical field, with the electricity apparently not effecting them, thus more fish were actually present than were noted, which is an indication of a higher game fish population.

The water was on the acid side and very cold, which is not conducive to good insect and plant growth, thus limiting the food supply for trout. Acid streams are very rare in this county, with most on the alkaline side. Few aquatic plants were noted within the water. The bicarbonate content was very

Jarbridge River (con't.)

low and this accounted for the electric shocker not properly working.

Therefore, with the above factors, it is recommended that stocking of trout be slowed down somewhat. If trout are stocked, Brook Trout might be tried more, as they have a tendency to thrive better in colder water, and due to fall spawning, should stay upstream better than the Rainbow Trout.

Only a limited amount of food is present, therefore a limited number of pounds of trout can be produced. This means that a large supply of small fish or a small supply of large fish should be in the stream.

Sample Areas -

Station A - On Sawmill Creek at the road crossing upstream 100 feet.

Station B - On the main stream between Sawmill Creek and Dry Gulch or at the first bridge crossing between the two tributaries for 100 feet.

Station C - Between Snowslide Gulch and Dry Gulch at the first bridge crossing upstream from Snowslide Gulch for 100 feet.

Station D - A section of 100 feet between Fox and Pine Creeks near and in a beaver pond and downstream from the bridge crossing.

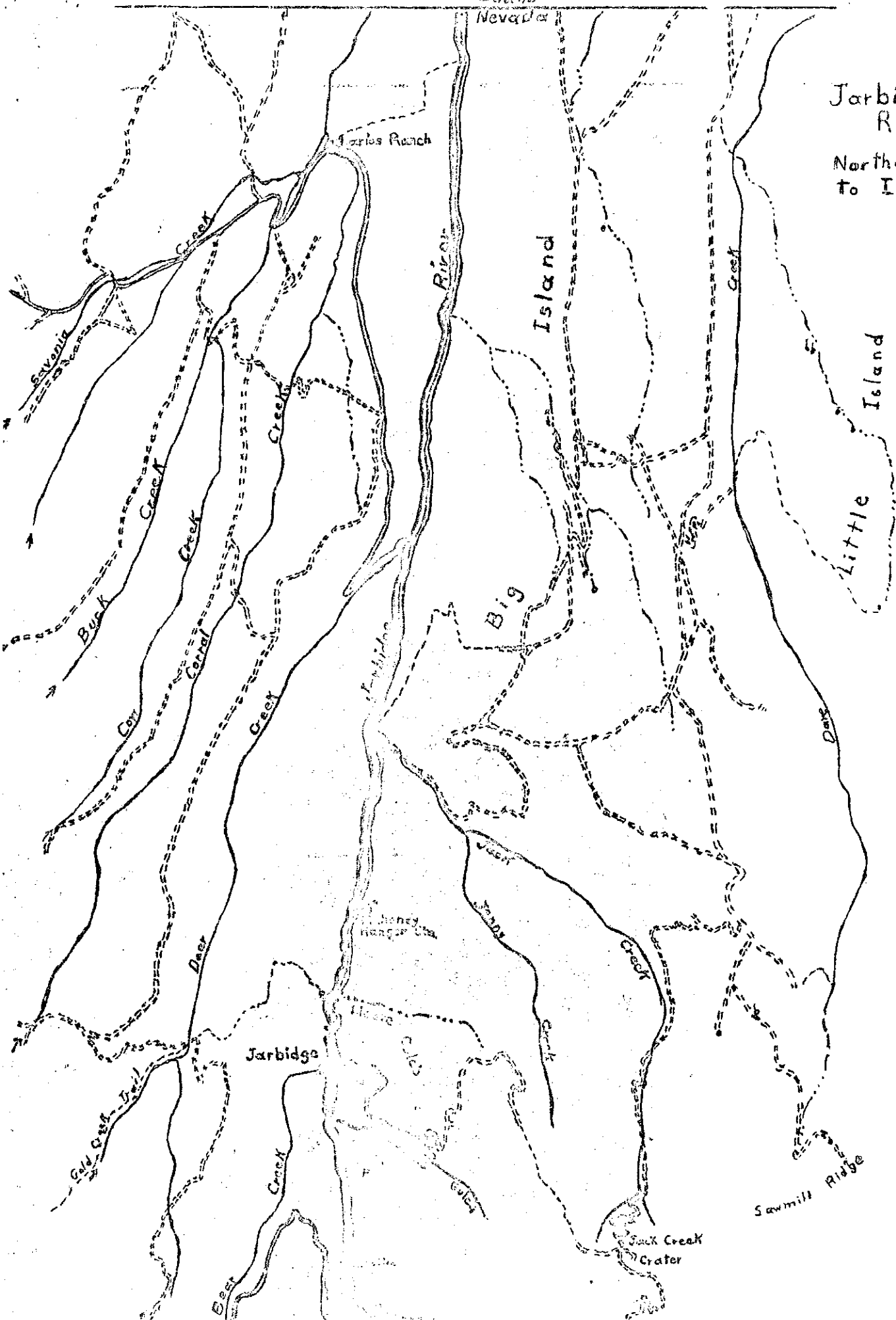
Station E - Downstream from the Bear Creek road junction to the first bridge crossing. The area was upstream from the bridge crossing for 100 feet.

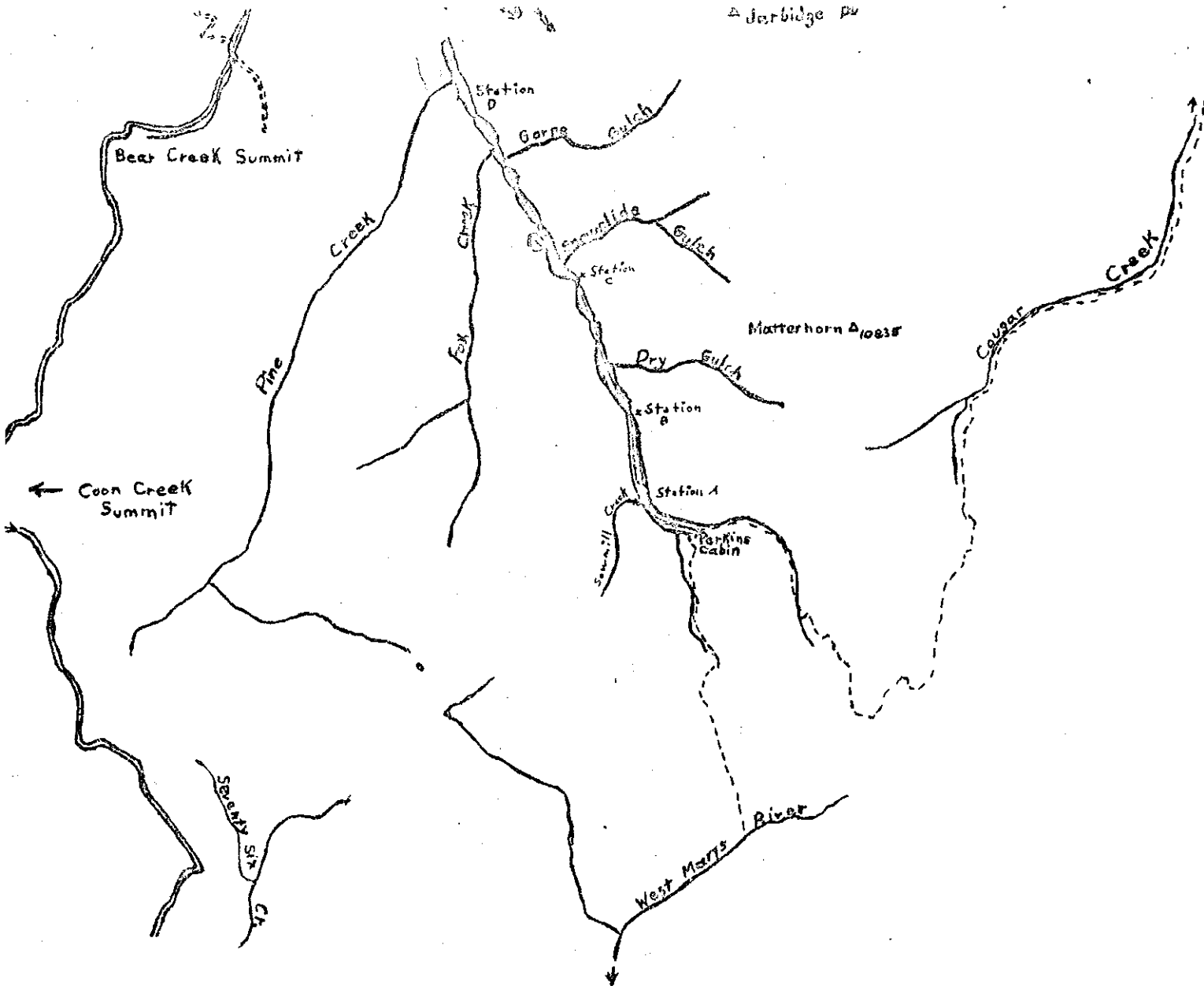
Station F - At the U.S. Forest Service Camp Ground 100 feet.



Idaho  
Nevada

# Jarbridge River Northern Portion to Idaho





Jarbidge River  
Southern Portion

Taken From  
U.S.G.S. Jarbidge Quadrangle

Scale  
1 Inch = 1 Mile



Profile Map

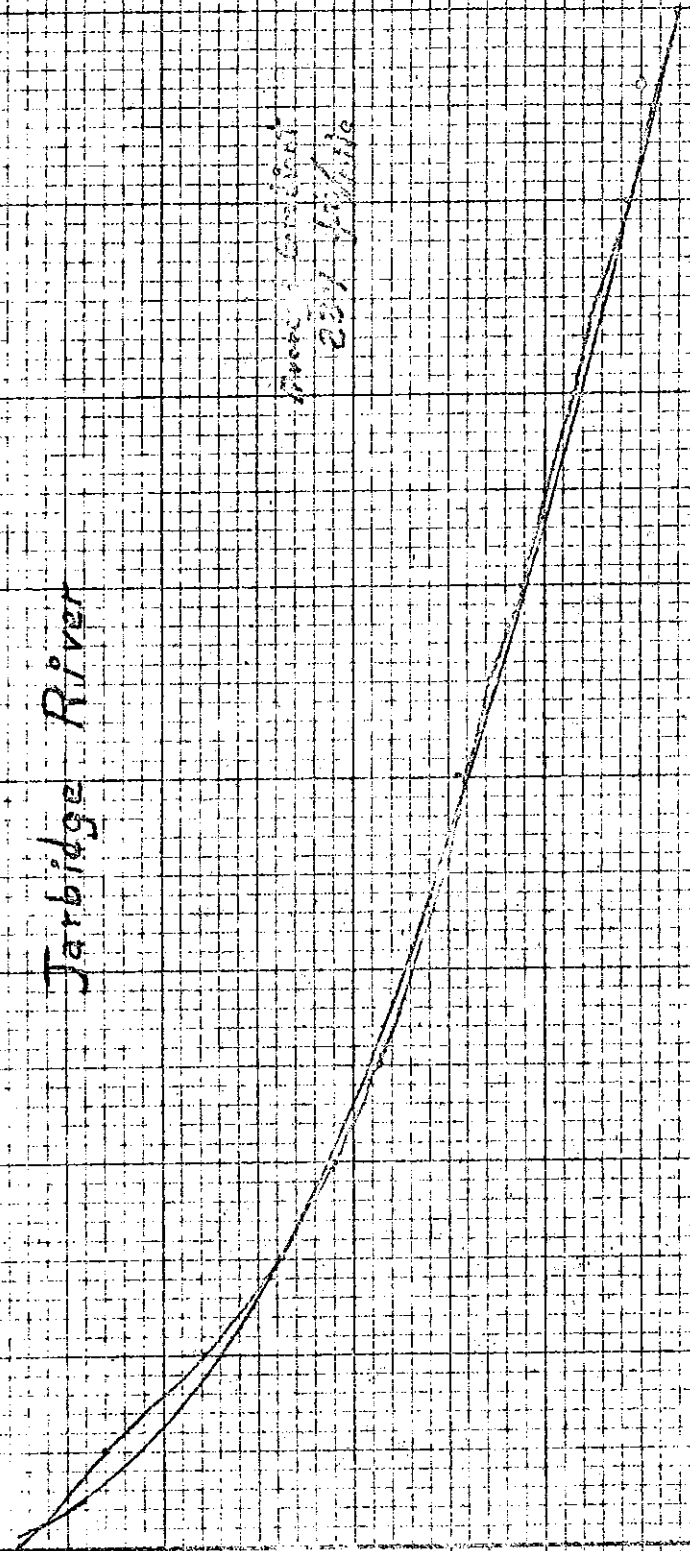
Jarbridge River

Profile Jarbridge  
25th Jan 1916

Distance in Miles

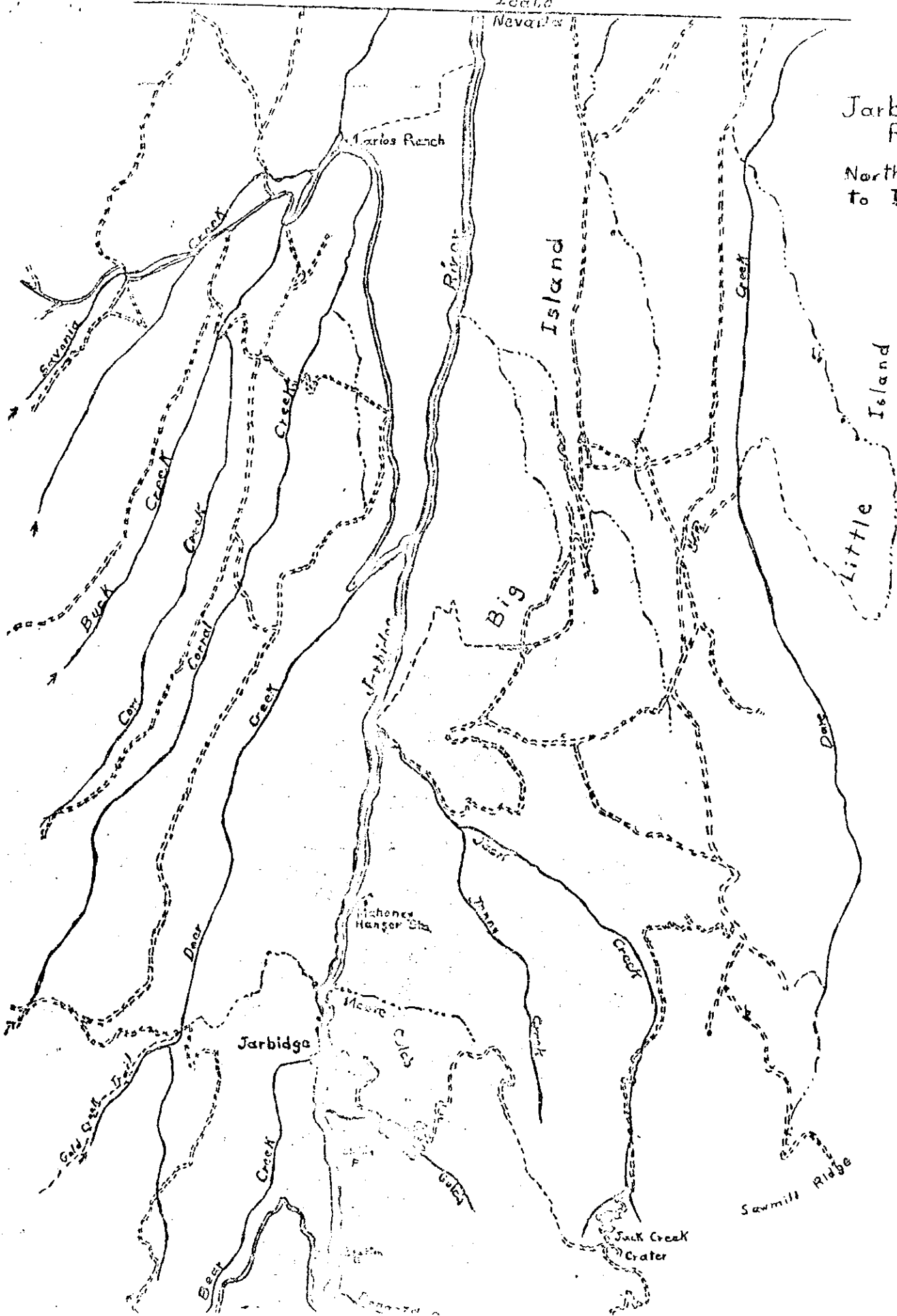
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8000  
7000  
6000  
5000  
4000

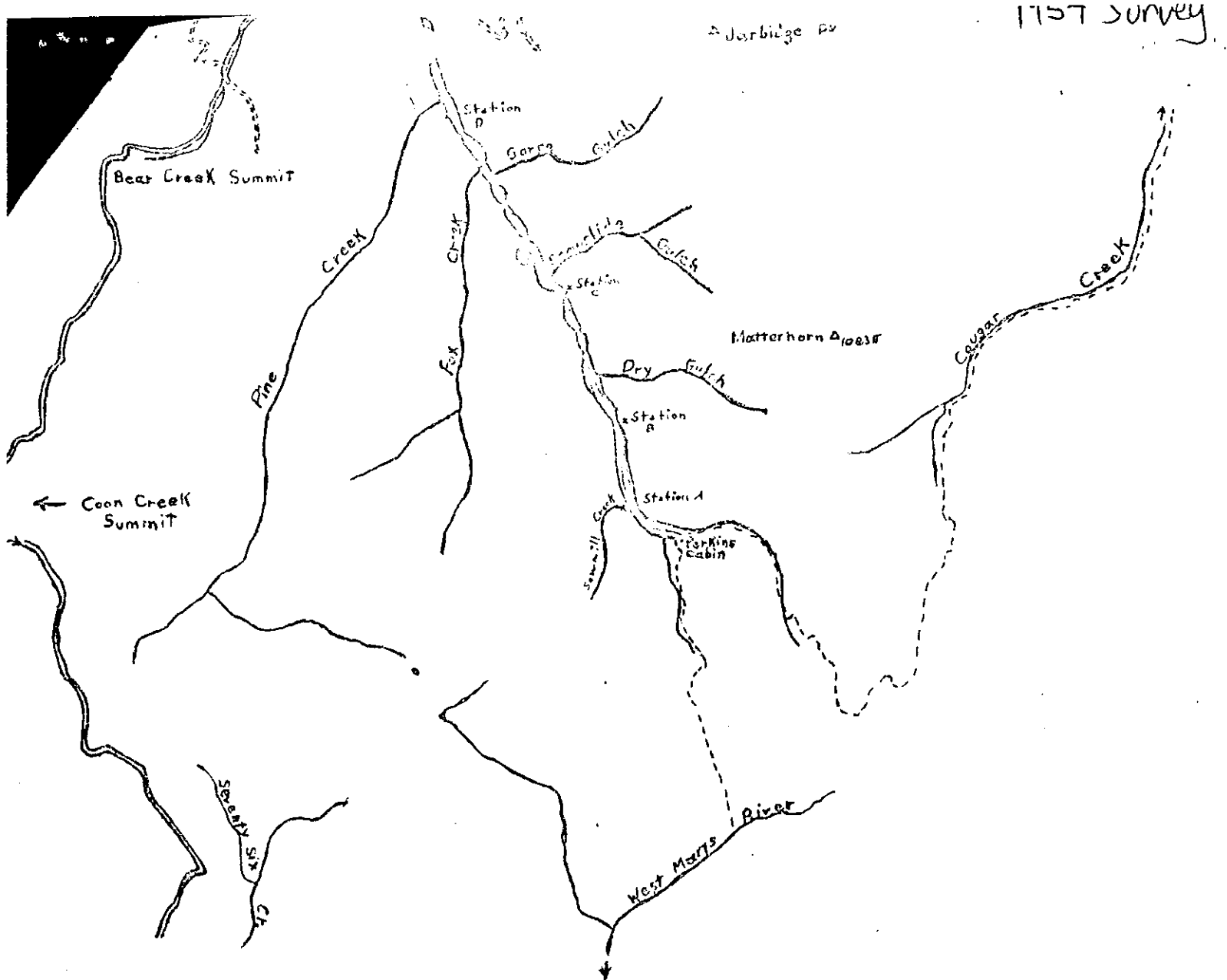
2 4 6 8 10 12 14 15



Idaho  
Nevada

# Jarbridge River Northern Portion to Idaho





Jarbidge River  
Southern Portion

Taken From  
U.S.G.S. Jarbidge Quadrangle

Scale  
1 Inch = 1 Mile



REPORT NUMBER

~~Snake River~~  
STREAM SYSTEM

**DISTRICT NUMBER**

FROM: 8750 To 8300  
ALTITUDE RANGE

2500  
ELEVATION

TEMPERATURE: June OF August  
 AIR 59 OF 49  
 WATER 54 OF 48  
 TIME 10 A.M. 8 PM

FLOW: \_\_\_\_\_

AVER. WIDTH \_\_\_\_\_" OR \_\_\_\_\_"

AVER. DEPTH \_\_\_\_\_" OR \_\_\_\_\_"

AVER. VELOCITY \_\_\_\_\_ F/S

AVER. FLOW \_\_\_\_\_ CFS

GPM

MEAS. GOOD FAIR POOR  
NOTE: CORRECTION FACTOR

WATER ANALYSES:		
DO	0.0	PPMB
CO <sub>2</sub>	100	PPMB
HCO <sub>3</sub>	100	PPMB
CO <sub>3</sub>	100	PPMB
pH	8.0	

100

100

\_\_\_\_\_

100

1990

100

100

USE REVERSE SIDE

REPORT NUMBER

Snake-River  
STREAM SYSTEM

--- Jarblaga River ---  
NAME(S)

--- **Elko County** ---  
COUNTY OR COUNTIES

**DISTRICT NUMBER**

**— 25 miles —**  
**FISHABLE LENGTH**

FROM: 3750 To: 5300  
ALTITUDE RANGE

On the main stream between Sawmill Creek and Dry  
Culch or the first bridge X-ing between the two - 100 ft. - 7268 - - -

STREAM TYPE: TORRENTIAL\_\_ RAPID\_\_ ~~FAST~~\_\_ SLOW\_\_ SLUGGISH\_\_  
 BOTTOM TYPE: ROCKY\_\_ GRAVELY\_\_ ~~SANDY~~\_\_ MUDDY\_\_ OTHER\_\_  
 TURBIDITY : CLEAR\_\_ CLOUDY\_\_ MURKY\_\_ MUDDY\_\_

TEMPERATURE: **June** **August**  
 AIR --- **67** °F **65**  
 WATER --- **40** °F **45**  
 TIME --- **11 AM** **9 AM**

FOOD TYPES	ABUNDANCE	OVERALL RATING
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Gadidia fly larvae	Fair
Stone fly nymphs	Poor
May fly nymphs	Poor

AVER. WIDTH 30" OR \_\_\_\_\_  
 AVER. DEPTH 2" OR \_\_\_\_\_  
 AVER. VELOCITY 2.5 F/S  
 AVER. FLOW 1.3 CFS  
 GPM

MEAS. GOOD FAIR POOR  
NOTE: CORRECTION FACTOR  
= 0.8

VEGETATION TYPE <sup>B</sup>	ABUNDANCE	OVERALL RATING
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
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25	25	25
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42	42	42
43	43	43
44	44	44
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64	64	64
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67	67	67
68	68	68
69	69	69
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84	84	84
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89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

Fir, larch, pine, mountain mahogany, common  
 Sassafras, chokecherry, willow, rose, common

WATER ANALYSES:

D.O.	0.8	PPMB
CO <sub>2</sub> (PPHM)	none	PPMB
HCO <sub>3</sub> <sup>-</sup> (M.O.)	10.0	PPMB
CO <sub>2</sub>	1.2	PPMB
pH	8.2	

POOL ABUNDANCE: ☒ EXCELLENT ☐ GOOD ☐ FAIR ☐ POOR

SPAWNING AREAS: EXCELLENT      GOOD      FAIR      POOR

RIFLE AREAS      EXCELLENT      GOOD      FAIR      POOR

## POPULATION DATA

[illegible]

RATING (1), (2), (3), (4), (5) To

## KEY STREAM

REMARKS: (POLLUTION, BARRIERS, BURNED AREAS, HABITAT IMPROVEMENTS, PREDATORS, PHOTOS, TERMINAL RESERVOIRS, AVAILABILITY OF LAND, RIGHT-OF-WAYS, ETC., WATER RIGHTS)

USE REVERSE SIDE









# STREAM SURVEY SHEET

--- **B** ---  
SAMPLE AREA (A,B,ETC.)

REPORT NUMBER

18 June 1954  
- 14 August 1954 -  
DATE

**Jarbridge River** - - - - -  
NAME (S)

**Snake River - -**  
**STREAM SYSTEM**

Brunau River  
TRIBUTARY TO

**Elko County**  
COUNTY OR COUNTIES

DISTRICT NUMBER

10 miles -----  
TOTAL LENGTH

— 20 miles —  
FISHABLE LENGTH

FROM: 8750 TO 9500  
ALTITUDE RANGE

Downstream from the Bear Cr. road junction to the first  
bridge crossing. Shocked upstream 100 feet

6400  
ELEVATION

STREAM TYPE: TORRENTIAL\_\_ RAPID\_\_ FAST\_\_ SLOW\_\_ SLUGGISH\_\_  
 BOTTOM TYPE: ROCKY\_\_ GRAVELLY\_\_ SANDY\_\_ MUDDY\_\_ OTHER\_\_  
 TURBIDITY : CLEAR\_\_ CLOUDY\_\_ MURKY\_\_ MUDDY\_\_

TEMPERATURE: **June** OF **August**  
 AIR --- **61** OF **78**  
 WATER --- **45** OF **56**  
 TIME --- **4** P. M. **4** P. M.

FOOD TYPES	ABUNDANCE	OVERALL RATING
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Juniper, Sagebrush, Rose, Willows, Harewood leaf  
cottonwood, mountain ash, mountain mahogany

FLOW: AVER. WIDTH 10 OR     
AVER. DEPTH 4 OR     
AVER. VELOCITY 1.5 / S  
AVER. FLOW 2.2 CFS  
GPM

MEAB, GOOD FAIR POOR  
NOTE: CORRECTION FACTOR  
= 0.8

VEGETATION TYPE <sup>6</sup>	ABUNDANCE	OVERALL RATING
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
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22	1	1
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87	1	1
88	1	1
89	1	1
90	1	1
91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

WATER ANALYSES:

0.0	2.8	PPMB
10 (PHPH)	0.0	PPMB
100 (M.O.)	1.0	PPMB
903	0.0	PPMB

	EXCELLENT	GOOD	FAIR	POOR
POOL ABUNDANCE:	EXCELLENT	GOOD	FAIR	POOR
SPAWNING AREAS:	EXCELLENT	GOOD	FAIR	POOR
RIFEE AREAS :	EXCELLENT	GOOD	FAIR	POOR

## POPULATION DATA

[illegible]

RATING (1), (2), (3), (4), (5) To \_\_\_\_\_

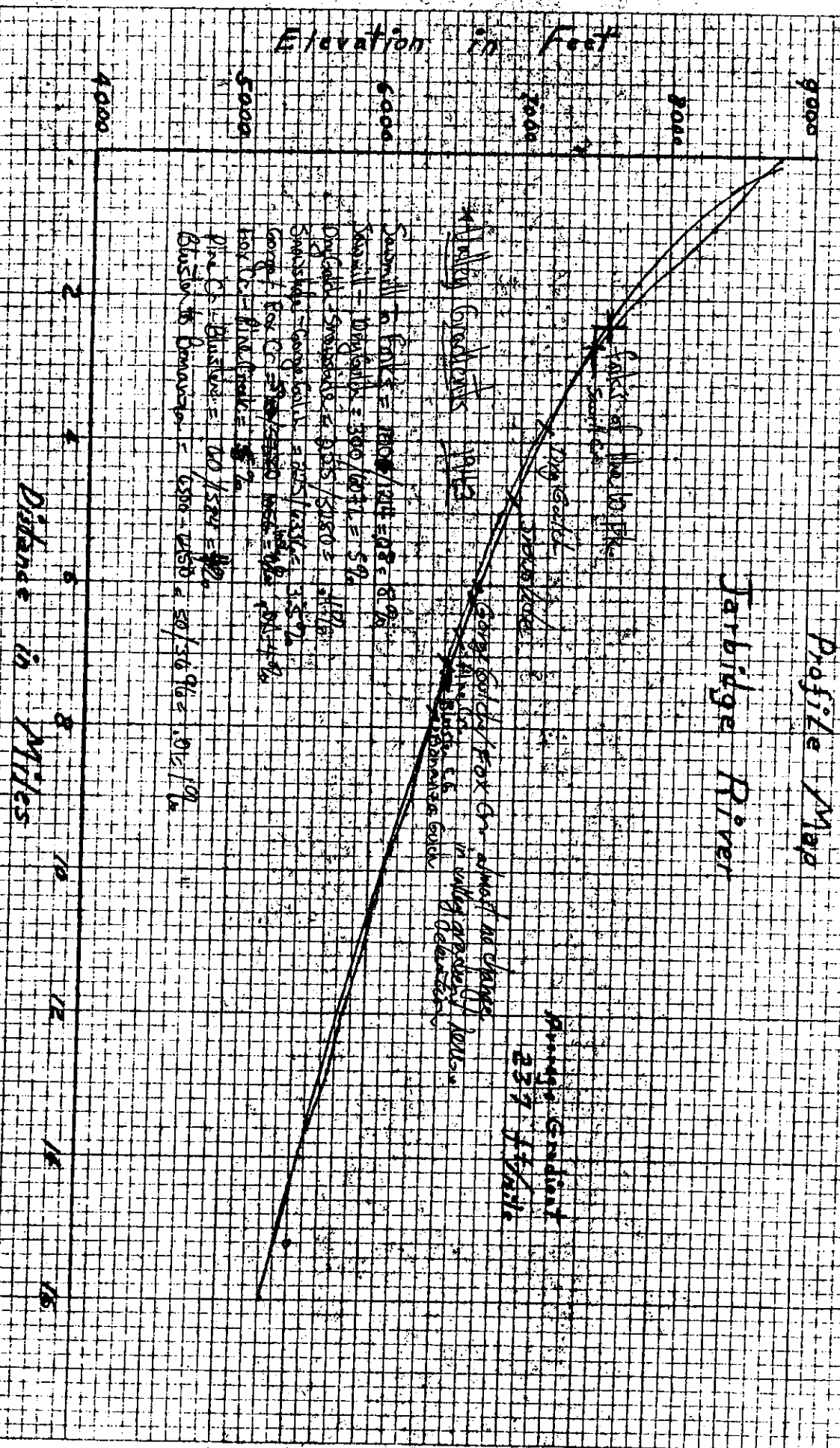
REMARKS: (POLLUTION, BARRIERS, BURNED AREAS, HABITAT IMPROVEMENTS, PREDATORS, PHOTOS, TERMINAL RESERVOIRS, AVAILABILITY OF LAND, RIGHT-OF-WAYS, ETC., WATER RIGHTS)

USE REVERSE SIDE





From 1954  
Wood Report.



Jarbridge River

# Profile Map

Arroyo Gradient  
237 14/10/16

19112  
Milling Machine

Carpet beetle / Fox Cr. almost no change.  
 100% 100% in wilder areas  
 100% 100% in wilder areas  
 100% 100% in wilder areas

Johnson  $\alpha$  Forks = 1000/1214 = 0.8 = 8%  
 Samsell - Dryden = 3000/6011 = 5%  
 Dugdale - Samsell = 9125/51850 = 17%  
 Samsell - George Forks = 925/1631 = 5.7%  
 George Forks = 590/1020 = 58%  
 Dryden - Dugdale = 5%  
 Dryden - Johnson = 10/132 = 7%  
 Johnson to Dugdale = 6300 - 4150 = 2150 = 50/3696 = 13.5%